ABSTRACT OF THE DISCLOSURE

A method for reading a radiation image from a stimulable phosphor sheet composed of a substrate and a stimulable phosphor layer containing a latent radiation image by means of a radiation image-reading means having a stimulating light-applying unit and a stimulated emission-collecting unit having a lens and a stimulated emission-receiving plane, which is performed by the steps of applying a stimulating light onto the phosphor layer under the condition that the phosphor sheet moves along its sheet plane in relation to the stimulated emission-collecting unit; collecting a stimulated emission emitting from the area onto which the stimulating light is applied on the emission-receiving plane through the lens; and photoelectrically converting the collected emission into electric signals in the stimulated emission-collecting unit, is improved by moving the stimulable phosphor sheet in relation to the emission-collecting unit under the condition that the stimulating light-applied area of the stimulable phosphor layer is kept apart from the center of the emission-receiving plane with a space in the range defined by a combination of a reference space and a focal depth of the lens, in which the reference space is defined by a length at which the stimulated

emission emitting from the phosphor layer focuses on the emission-receiving plane after passing through the lens.